

**REMARKS**

The Office Action mailed June 16, 2005, has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

**Rejection(s) Under 35 U.S.C. § 112, Second Paragraph**

Claims 1 – 6, 8 and 9 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 1, from which the remaining rejected claims depend, has been amended to replace “that may be coated with” with “for supporting,” and to replace “may be deflected” with “deflectable.” Claim 1 has also been amended to add the phrase “said change in weight being indicative of a binding of an analyte of interest.” This added phrase was made substantially in accordance with the examiner’s suggestion, to obviate the failure to mention a biological or chemical sample. However, the term “indicative of” has been used in lieu of the examiner’s suggested term “corresponding to,” in order to address the examiner’s further query of how the change in weight is detected or analyzed. While applicants respectfully decline to further limit the scope of the claim by claiming the actual analysis process which is explained in detail in the specification, the use of the term “indicative of” provides a sufficient nexus between the weight

change and the analyte to satisfy the definiteness requirements of 35 U.S.C. 112, second paragraph, without unduly restricting the claim.

**Rejection(s) Under 35 U.S.C. § 103 (a)**

Claims 1 – 6, 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Thundat et al. (U.S. pat. no. 5,719,324 (hereinafter, “Thundat”) in view of WO 94/18697 (hereinafter, “PCT publication”).

The Office Action proposes combining the teachings of Thundat with those of the PCT publication to arrive at the presently claimed invention, even though the PCT publication does not teach the spiral shape of Claim 1. This deficiency is explained away by the statement in the Office Action that the PCT publication discloses “various shapes that include triangular and rectangular structures, as well as curved structures such as circles, ellipses, and parabolas.” This is hardly a strong case for the use of a spiral structure, which the PCT publication clearly fails to disclose, and which has a specific advantage that the Office Action proceeds to mischaracterize. In particular, the Office Action reasons that the desire for increased surface area would motivate the ordinarily skilled artisan to look to the PCT publication for a spiral shape (that the PCT publication does not disclose). In fact, a primary advantage of the spiral shape is to increase the length of the flexible support within a limited area, the length of the flexible support being inversely related to the amount of weight required to induce its deflection. In other words,

the longer the flexible support, the greater the moment arm generated by a given amount of weight at its end, which translates to a greater deflection and increased detectability.

The argument against the combinability of Thundat and the PCT publication is further strengthened by an examination of the fields of endeavor to which these references are directed. Thundat is directed to a microcantilever sensor for analyzing chemical reactions (see abstract). The PCT publication, by contrast, is directed to an etching process for fabricating microstructures, none of whose functions are described as including chemical reaction analysis. There would be no reason to combine the teachings of these references, and, in view of the discussion above, (namely, absence of spiral shape) such a combination would in any case not achieve the presently claimed invention. The reasoning proffered in the Office Action—that is, increasing the surface area—is not provided by the references and is not based on an issue or problem confronted by their teachings. It will be appreciated that, according to the Manual of Patent Examining Procedure (M.P.E.P.),

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure.<sup>1</sup>

In this case, the rejection based on the combination of the Thundat and the PCT publication fails to rise to the level of a *prima facie* case of obviousness, at least for the reasons

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<sup>1</sup> M.P.E.P. § 2143.

provided above. Accordingly, it is respectfully urged that the obviousness rejection of claims 1 – 6, 8 and 9 is improper and should be withdrawn.

**Conclusion**


In view of the preceding discussion, Applicants respectfully urge that the claims of the present application define patentable subject matter and should be passed to allowance.

If the Examiner believes that a telephone call would help advance prosecution of the present invention, the Examiner is kindly invited to call the undersigned attorney at the number below.

Please charge any additional required fees, including those necessary to obtain extensions of time to render timely the filing of the instant Amendment and/or Reply to Office Action, or credit any overpayment not otherwise credited, to our deposit account no. 50-1698.

Respectfully submitted,  
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